

January 17, 2008

California Solar Initiative Public Forum Hosted by PG&E



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CALIFORNIA SOLAR INITIATIVE

Important items

- Safety and Facilities
- Agenda
- Location of presentation electronically
- Introductions



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January 2008 CSI Handbook Revisions



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Overview

- In 2007, the CSI Program Administrators submitted two Advice Filings with proposed CSI Handbook revisions, intending to improve the CSI application process.
- On January 14th, 2008 the CPUC approved these changes.
- The CPUC has updated the 2008 CSI Handbook to reflect these revisions.

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CSI Handbook Revisions

Advice Filing #1

5



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CSI Contract

(1 of 3)

2007 Handbook

- CSI terms and conditions are listed in the CSI 2-Step and 3-Step contracts.
- Proof of Project Milestone stage of the 3-Step Application Process includes a CSI Program Contract Requirement. (4.2.7.1) (4.7.2) (Table 15)
- Reservation Request form includes the extended contract language to reference the CSI Handbook during the 2-Step and 3-Step Application Processes. (4.1.2) (Table 14) (4.2.4) (Table 15)



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CSI Contract

(2 of 3)

2008 Handbook

- CSI terms and conditions moved to the CSI Handbook. (Section 10)
- The CSI Program Contract in the Proof of Project Milestone stage of the 3-Step Application Process has been removed. (4.2.7.1) (4.7.2) (Table 15)
- Reservation Request form revised to include the shortened contract language to reference the CSI Handbook during the 2-Step and 3-Step Application Processes. (4.1.2) (Table 14) (4.2.4) (Table 15)



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CSI Contract

(3 of 3)

Impact of Change:

- Streamlined CSI Process.

Reason for Change:

- Decrease paperwork required to participate.

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The Proof of Electric Utility Service

(1 of 3)

2007 Handbook

- A copy of the utility bill is required. (4.7.1.2)



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CALIFORNIA SOLAR INITIATIVE

The Proof of Electric Utility Service

(2 of 3)

2008 Handbook

- Entire copy of the utility bill is no longer required.
- The new submission requires only one page of the utility bill that provides the PAs with required information. (4.7.1.2)
 - Service account name
 - Contact information
 - Service Account Number



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CALIFORNIA SOLAR INITIATIVE

The Proof of Electric Utility Service

(3 of 3)

Impact of Change:

- Simplify the CSI Application Process.

Reason for Change:

- Decrease paperwork required to participate.

CALIFORNIA SOLAR INITIATIVE

Proof of Warranty

(1 of 3)

2007 Handbook

- Proof of Warranty required in the Incentive Claim section of the process. (4.1.5) (Table 14) (4.4.3.1) (Table 15) (4.7.3)



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CALIFORNIA SOLAR INITIATIVE

Proof of Warranty

(2 of 3)

2008 Handbook

- No requirement for the Proof of Warranty in Incentive Claim section of the process. (4.1.5) (Table 14) (4.4.3.1) (Table 15) (4.7.3)
- Proof of warranty is provided in either the solar contract or PPA.



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Proof of Warranty

(3 of 3)

Impact of Change

- Streamline the Process. Warranty Requirements are covered in other areas of the process.

Reason for Change

- Executed Solar Contract or PPA needs to contain the minimum warranty information. Proof of warranty is provided in either the solar contract or PPA.

CALIFORNIA SOLAR INITIATIVE

Project Cost Breakdown Worksheet

(1 of 3)

2007 Handbook

- The Project Cost Breakdown worksheet is a required part of both the Proof of Project Milestone stage of the 3-Step Application Process and in the Incentive Claim Form. (4.2.7.1) (Table 15) (4.7.2)



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Project Cost Breakdown Worksheet

(2 of 3)

2008 Handbook

- The requirement to complete the Project Cost Breakdown worksheet in the Proof of Project Milestone stage of the 3-Step Application Process is removed. (4.2.7.1) (Table 15) (4.7.2)



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Project Cost Breakdown Worksheet

(3 of 3)

Impact of Change

- Streamline the Process and reduce redundant paperwork.

Reason for Change

- Submission of two separate Project Cost Breakdown worksheets at two different stages was deemed redundant. The Project Cost Breakdown worksheet is still required at the Incentive Claim Form Stage.

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Building Permit Requirement

(1 of 3)

2007 Handbook

- A copy of the building permit is a required submission in the Incentive Claim stage of the 2-Step and 3-Step Application Processes. (4.1.5) (Table 14) (4.4.3.1) (Table 15) (4.7.3)



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Building Permit Requirement

(2 of 3)

2008 Handbook

- Remove the requirement to provide a copy of the building permit in the Incentive Claim stage of the 2-Step and 3-Step Application Processes. (4.1.5) (Table 14) (4.4.3.1) (Table 15) (4.7.3)



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Building Permit Requirement

(3 of 3)

Impact of Change

- Streamline the Process and remove unnecessary steps.

Reason for Change

- Interconnection can not occur without a Building Permit. Existence of Interconnection is therefore proof of a Building Permit.

CALIFORNIA SOLAR INITIATIVE

Application for Interconnection and NEM Agreement

(1 of 3)

2007 Handbook

- A copy of the completed Interconnection Application is required for the Proof of Project Milestone stage of the 3-Step Application Process. (4.7.2) (Table 15)



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Application for Interconnection and NEM Agreement

(2 of 3)

2008 Handbook

- The requirement for a copy of the completed Interconnection Application from the Proof of Project Milestone stage of the 3-Step Application Process is removed. (4.7.2) (Table 15)



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Application for Interconnection and NEM Agreement

(3 of 3)

Impact of Change

- Streamline the Process and remove unnecessary steps.

Reason for Change

- Interconnection is not required for CSI, but Interconnection paperwork is submitted directly to the respective Interconnection department.

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Time Limit for Retroactive Incentives

(1 of 3)

2007 Handbook

- Unclear on the eligibility for an incentive payment if a customer's Reservation Request Application is received after the final interconnection authorization.
(2.6)



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CALIFORNIA SOLAR INITIATIVE

Time Limit for Retroactive Incentives

(2 of 3)

2008 Handbook

- A customer is still eligible for an incentive if their reservation request application is received within 12 months of the dated final interconnection authorization letter. However, after 12 months, the project will no longer be eligible for an incentive. (2.6)



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CALIFORNIA SOLAR INITIATIVE

Time Limit for Retroactive Incentives

(3 of 3)

Impact of Change

- Clear policy for Incentives for systems installed in late 2006.

Reason for change

- Enables reasonable assurance that no ERP projects will have been stranded.

CALIFORNIA SOLAR INITIATIVE

Incentive Calculation Worksheet

(1 of 3)

2007 Handbook

- Required a revised Incentive Calculation Worksheet in the Proof of Project Milestone stage of the 3-Step Application Process. (4.2.7.1) (Table 15)



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Incentive Calculation Worksheet

(2 of 3)

2008 Handbook

- This requirement is removed from the Proof of Project Milestone stage of the 3-Step Application Process. (4.2.7.1) (Table 15)



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Incentive Calculation Worksheet

(3 of 3)

Impact of Change

- Streamline the Process.

Reason for Change

- This form was never finalized and other steps account for the information.

CALIFORNIA SOLAR INITIATIVE

System Sizing

(1 of 3)

2007 Handbook

- Required the “Revised System Sizing Calculation” worksheet in the Proof of Project Milestone stage of the 3-step application process. (4.2.7.1) (Table 15)



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System Sizing

(2 of 3)

2008 Handbook

- The “Revised EPBB Calculation Printout (if applicable)” is substituted for the “Revised System Sizing Calculation” worksheet in the Proof of Project Milestone stage of the 3-step application process. (4.2.7.1) (Table 15)
- A copy of revised EPBB Calculation Printout will include the system sizing changes.

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System Sizing

(3 of 3)

Impact of Change

- Simplifies and streamlines the process.

Reason for Change

- EPBB provides the proper justification for “Revised System Sizing.”

CALIFORNIA SOLAR INITIATIVE

EPBB Calculation Printout

(1 of 3)

2007 Handbook

- No requirement for the “Revised EPBB Calculation Printout” in the Incentive Claim stage of the 2-Step and 3-Step Process.



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EPBB Calculation Printout

(2 of 3)

2008 Handbook

- Includes the “Revised EPBB Calculation Printout” in the Incentive Claim stage of the 2-Step and 3-Step Process.



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CALIFORNIA SOLAR INITIATIVE

EPBB Calculation Printout

(3 of 3)

Impact of Change

- Simplifies and streamlines the process.

Reason for Change

- Project info changes frequently between Reservation Request Form and Incentive Claim Form stages, and the calculator itself may have changed. It is simpler to require the EPBB Calculation Printout.

CALIFORNIA SOLAR INITIATIVE

Third Party Payment Form

(1 of 3)

2007 Handbook

- Allowed authorization for 3rd party payment information in the reservation request package of forms.



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Third Party Payment Form

(2 of 3)

2008 Handbook

- Relocated the authorization for 3rd party payment information from the reservation request package forms to an area on the Incentive Claim Form, with the payee information, that applicants sign in order to authorize payment to a 3rd party.



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Third Party Payment Form

(3 of 3)

Impact of Change

- Saves time and effort in having to process changes from Reservation Request Form to Incentive Claim Form.

Reason for Change

- Payee information not required until payment is about to be made, so it makes sense to put acquire this information later in the process.

CALIFORNIA SOLAR INITIATIVE

Meter Warranty Requirements

(1 of 3)

2007 Handbook

- Meter warranty requirement at one-year. (2.4) (1.6)
(2.2.4) (8.2)



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Meter Warranty Requirements

(2 of 3)

2008 Handbook

- Meter warranty requirement will remain at one-year.
- If the meter is integrated into the inverter, then the applicable warranty is that of the inverter itself. (2.4) (1.6) (2.2.4) (8.2)



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Meter Warranty Requirements

(3 of 3)

Impact of Change

- Allows flexibility for system owners to purchase meters without extended warranties.

Reason for Change

- Most meter manufacturers only supply a one year warranty unless a customer purchases an extended warranty.

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PMRS Exemption Documentation

(1 of 3)

2007 Handbook

- PMRS exemption requests require two forms of documentation from the specified list. (4.7.3.2)



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PMRS Exemption Documentation

(2 of 3)

2008 Handbook

- PMRS exemption requests require only one form of documentation from the specified list. (4.7.3.2)



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PMRS Exemption Documentation

(3 of 3)

Impact of Change

- Streamlines the Process while still requiring adequate documentation.

Reason for Change

- The language from the 2007 Handbook was confusing, and the PMRS Exemption Documentation process redundant.

CALIFORNIA SOLAR INITIATIVE

On-Site Electrical Load for Residential Homes Smaller than 10 kW

(1 of 3)

2007 Handbook

- 2.2.3 Equipment Must Serve On-Site Electrical Load
“To be eligible, the system must be sized so that the amount of electricity produced by the system primarily offsets part or all of the customer's electrical needs at the Site of installation. The expected production of electricity by the system may not exceed the actual energy consumed during the previous 12 months at the Site, as calculated per the following formula:

Maximum System Capacity (kW) = 12-months previous
energy usage (kWh) / (capacity factor10 x 8760
hours/year) “

CALIFORNIA SOLAR INITIATIVE

On-Site Electrical Load for Residential Homes Smaller than 10 kW

(2 of 3)

2008 Handbook

- For homes that can't determine electrical load history, due to extensive remodel, the calculated on-site electrical load will be at 2 watts (CEC-AC) per square foot for systems less than or equal to 10kW. For systems larger than 10kW engineering calculations will still be required. (2.2.3)

CALIFORNIA SOLAR INITIATIVE

On-Site Electrical Load for Residential Homes Smaller than 10 kW

(3 of 3)

Impact of Change

- Simplifies system sizing calculation by using a simple formula of $2w/ft^2$.

Reason for Change

- Allows for cost-free, alternative to engineering calculations for homes undergoing extensive remodeling.

CALIFORNIA SOLAR INITIATIVE

System Sizing Based on Future Growth (1 of 3)

2007 Handbook

- Engineering estimates are preferred or required to estimate the expected expanded consumption in situations where applicants with new or expanded sites with no electric bill history.(2.2.5.1)
- Non-Crystalline Cells required an estimated annual kWh usage calculation using a four-step formula.(2.2.5)

CALIFORNIA SOLAR INITIATIVE

System Sizing Based on Future Growth (2 of 3)

2008 Handbook

- Estimate future growth based on 2 watts (CEC-AC) per square foot or engineering calculation for residential facilities of 10 kW or less. (2.2.5.1)
- Remove Non-Crystalline Cells calculation – This calculation is not needed as the new EPBB calculation is implemented. (2.2.5)

CALIFORNIA SOLAR INITIATIVE

System Sizing Based on Future Growth (3 of 3)

- Impact of Change
 - Simplifies system sizing calculation by using a simple formula of $2w/\text{ft}^2$.
- Reason for Change
 - Allows for cost-free, alternative to engineering calculations for homes undergoing extensive remodeling.

CALIFORNIA SOLAR INITIATIVE

Interconnection to the Electric Utility Distribution System

(1 of 3)

2007 Handbook

- Proof of interconnection and parallel operations is required prior of receiving an incentive payment. (2.6)



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CALIFORNIA SOLAR INITIATIVE

Interconnection to the Electric Utility Distribution System

(2 of 3)

2008 Handbook

- Proof of Interconnection is no longer a required submission. The local electric utility service provider will convey proof of interconnection to the Program Administrator. (2.6)

CALIFORNIA SOLAR INITIATIVE

Interconnection to the Electric Utility Distribution System

(3 of 3)

Impact of Change

- Speeds up the CSI process.

Reason for Change

- The Interconnection paperwork deemed unnecessary.

CALIFORNIA SOLAR INITIATIVE

Customer Tax Status

(1 of 3)

2007 Handbook

- For Incentive Check Payment Terms, the language is unclear on the definition of a “Payee.” (4.4.5) (8.2)



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CALIFORNIA SOLAR INITIATIVE

Customer Tax Status

(2 of 3)

2008 Handbook

- At the point where a payee must submit their tax ID number except in the case where a residential customer is receiving the incentive, the definition of Payee is included in the CSI Handbook: “Payee is person, or company, to whom the incentive payment check(s) is made payable.” (4.4.5) (8.2)

CALIFORNIA SOLAR INITIATIVE

Customer Tax Status

(3 of 3)

Impact of Change

- Clarifies the CSI process and speeds up the check payment process.

Reason for Change

- The definition of Payee is important for the Incentive Check process.

CALIFORNIA SOLAR INITIATIVE

If the Host Customer is not on the Electric Service Provider Account

(1 of 3)

2007 Handbook

- No formal policies stipulated for special cases with a “host customer,” such as name changes, deceased family members, etc. (2.1.1)

CALIFORNIA SOLAR INITIATIVE

If the Host Customer is not on the Electric Service Provider Account

(2 of 3)

2008 Handbook

- In special circumstances where the Host Customer is not on the Electric Service Provider Account, a letter of explanation must be sent to the Program Administrator, explaining the relationship of Host Customer to the person who is on the utility service bill and interconnection agreement. (2.1.1)

CALIFORNIA SOLAR INITIATIVE

If the Host Customer is not on the Electric Service Provider Account

(3 of 3)

Impact of Change

- Enables CSI incentives to accommodate special situations.

Reason for Change

- Program needs flexibility in handling special cases – name changes, deceased family members, etc.

CALIFORNIA SOLAR INITIATIVE

Systems that Fail Inspections

(1 of 3)

2007 Handbook

- There is no stipulated timeline for the length of probation for lower-volume installers who have failed two inspections. (2.9.1)

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Systems that Fail Inspections

(2 of 3)

2008 Handbook

- Allows for installers who fail inspections to have those failures eliminated for good behavior.
- Installers can be removed from probation if no additional failures occur within one calendar year of second failed inspection. (2.9.1)

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Systems that Fail Inspections

(3 of 3)

Impact of Change

- Low Volume Installers have clear directives to both prevent and remedy failed installations.

Reason for Change

- All installers need a methodology to end probation for good behavior.

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Incentives for Residential Installations

(1 of 3)

2007 Handbook

- Section 3.2.1, regarding Incentives for Residential Installations, states:
“Residential installations will be provided a one-time payment under the EPBB program to help reduce the cost of installation provided the system size is less than 100 kW CEC-AC.”

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Incentives for Residential Installations

(2 of 3)

2008 Handbook

- Section 3.2.1 now reads:
“Residential Installation will be provided a one-time payment under the EPBB program to help reduce the cost of installation provided the system size is within EPBB size eligibility.”



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Incentives for Residential Installations

(3 of 3)

Impact of Change

- Consistency.

Reason for Change

- Consistency.

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Step #2 Submit Incentive Claim Form Package (1 of 3)

2007 Handbook

- For Residential and Small Non-Residential Projects under 10 kW, there is no Mention of the Online Tool in the Incentive Claim Form Package. (4.1.5)

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Step #2 Submit Incentive Claim Form Package (2 of 3)

2008 Handbook

- Includes the statement: “The online tool can be used to assist at this stage even if it had not been used for the original Reservation Request application Package.” (4.1.5)

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Step #2 Submit Incentive Claim Form Package (3 of 3)

Impact of Change

- Greater Awareness and Reliance on the Online Tool.

Reason for Change

- Online tool is available to assist all Applicants regardless of original Reservation Request Form submission method.

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Step #3: Submit Incentive Claim Form Package (1 of 3)

2007 Handbook

- For Non-Residential Projects greater than or equal to 10 kW, there is no mention of the Online Tool in the Incentive Claim Form Package. (4.2.8)



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Step #3: Submit Incentive Claim Form Package (2 of 3)

2008 Handbook

- Includes the statement: “The online tool can be used to assist at this stage even if it had not been used for the original Reservation Request application Package.” (4.2.8)



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Step #3: Submit Incentive Claim Form Package (3 of 3)

Impact of Change

- Greater Awareness and Reliance on the Online Tool.

Reason for Change

- Online tool is available to assist all Applicants regardless of original Reservation Request Form submission method.

CALIFORNIA SOLAR INITIATIVE

CSI Handbook Revisions

Advice Filing #2



CALIFORNIA SOLAR INITIATIVE

Maximum System Size Methodology

(1 of 3)

2007 Handbook

- 2.2.3 Equipment Must Serve On-Site Electrical Load

“To be eligible, the system must be sized so that the amount of electricity produced by the system primarily offsets part or all of the customer's electrical needs at the Site of installation. The expected production of electricity by the system may not exceed the actual energy consumed during the previous 12 months at the Site, as calculated per the following formula:

Maximum System Capacity (kW) = 12-months previous
energy usage (kWh) / (capacity factor10 x 8760
hours/year) “

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Maximum System Size Methodology

(2 of 3)

2008 Handbook

- 2.2.3 Equipment Must Serve On-Site Electrical Load

"To be eligible, the system must be sized so that the amount of electricity produced by the system primarily offsets part or all of the customer's electrical needs at the Site of installation. Unless additional load substantiation documentation is submitted, the estimated annual kWh production of the proposed system as shown on the EPBB Calculator may not be higher than the previous 12-months energy usage."

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Maximum System Size Methodology

(3 of 3)

Impact of Change

- Use the EPBB Calculator to determine maximum system size instead of equation in 2.2.3 of 2007 Handbook.

Reason for Change

- Current maximum system size formula is inconsistent and unresponsive to on-site installation characteristics. This new change will allow for systems to be properly sized to their load.

January 2008

California Solar Initiative Program Forum Overview & Program Demand Statistics



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Program Overview January 2008

- Program Demand Statistics
- Administrative Statistics
- Comparison with Earlier Programs
- Question and Answer



Photo: Travis Richardson, Hansen Trout Farm; Fillmore, CA.
California Solar Initiative Funded System installed June 2007, 105 kW
Installer: GW Richardson Heating & Air Conditioning, Inc.
Engineer/Designer: Kris Sutton, Travis Richardson

CALIFORNIA SOLAR INITIATIVE

Program Demand Statistics

All data from Jan 1 – Dec 31, 2007



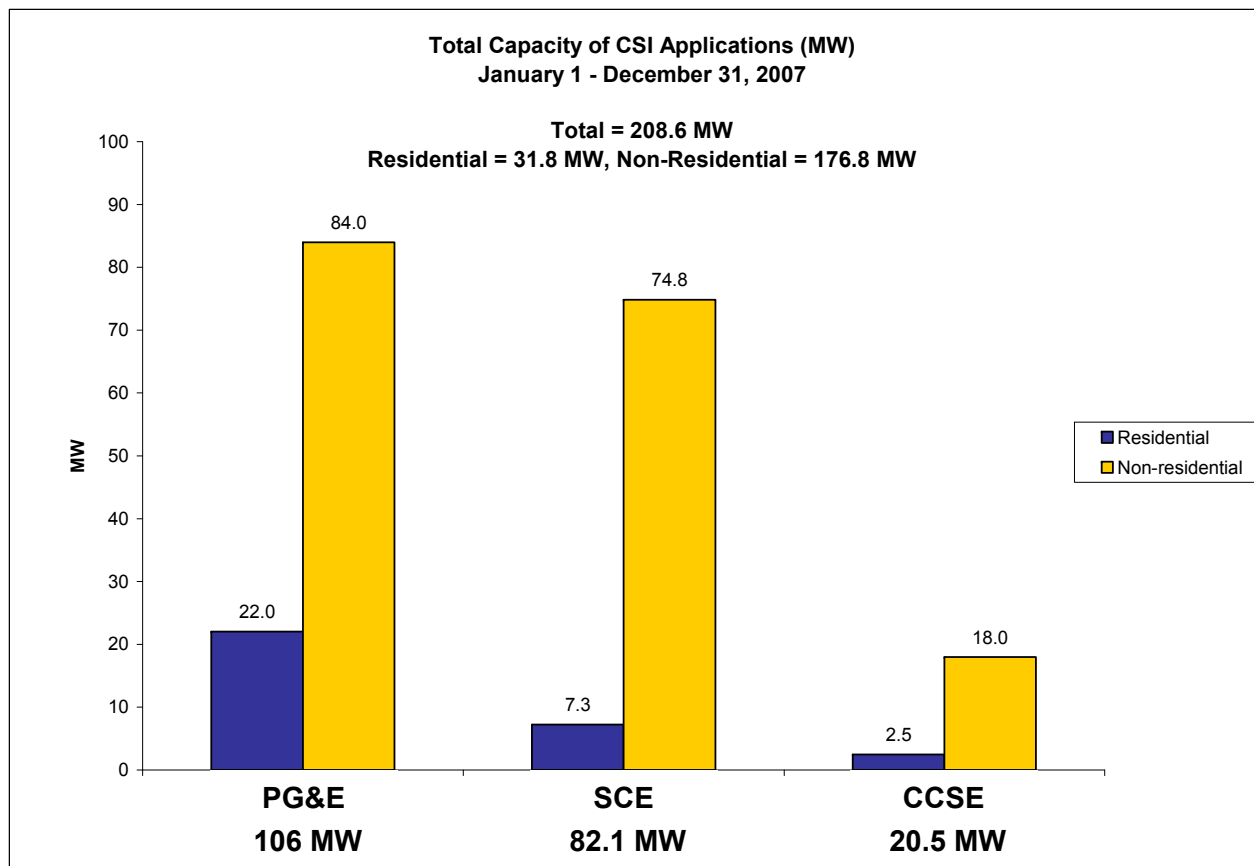
Photo: Ericson Solar
Residence of Charles and Debbie Mckeown, Placerville, CA
California Solar Initiative Funded System installed Spring 2007, 9.7 kW
Installer: Ericson Solar

- Capacity of CSI Applications
 - 31.8 MW Residential
 - 176.8 MW Non-Residential
 - 208.6 MW Total
- Number of Applications
 - 6,712 Residential
 - 829 Non-Residential
 - 7,541 Total
- Installed Projects
 - 17.9 MW
 - 2,719 Applications



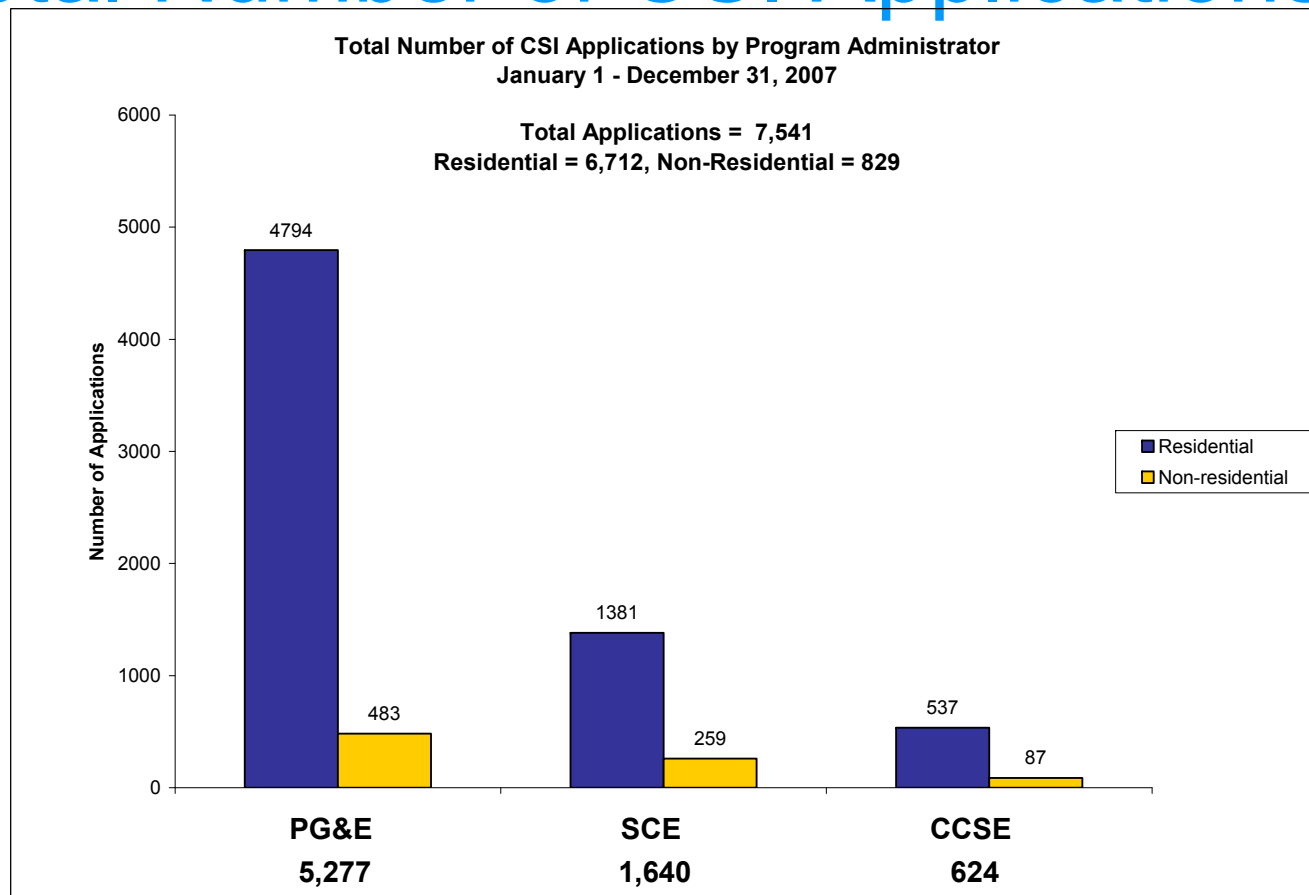
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Total Capacity of CSI Applications



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Total Number of CSI Applications



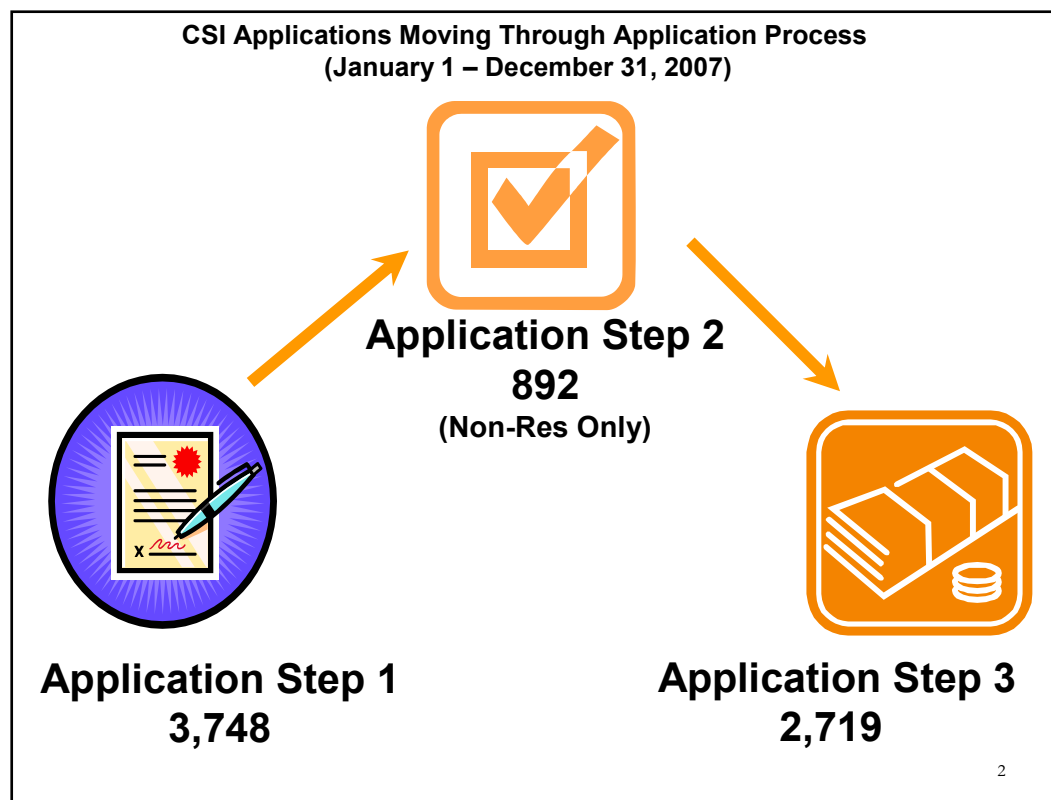
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Number of Applications and MW by Customer Type and Administrator

		Program Administrator							
Customer Class	Data	CCSE		PG&E		SCE		Total	
Residential	# of Applications	537		4794		1381		6,712	MW
	Applications %	7%		64%		18%		89%	
	MW	2.5	MW	22.0	MW	7.3	MW	31.8	
	MW %	1%		11%		3%		15%	
Commercial	# of Applications	61		360		211		632	MW
	Applications %	1%		5%		3%		8%	
	MW	14.1	MW	65.5	MW	63.8	MW	143.4	
	MW %	7%		31%		31%		69%	
Government/ Non-Profit	# of Applications	26		123		48		197	MW
	Applications %	0.3%		2%		1%		3%	
	MW	3.9	MW	18.5	MW	11.0	MW	33.4	
	MW %	2%		9%		5%		16%	
Total # of Applications		624		5,277		1,640		7,541	
% of Applications		8%		70%		22%			
Total MW		20.5		106.0		82.1		208.6	
% of Total (by Administrator)		10%		51%		39%			

CALIFORNIA SOLAR INITIATIVE

Applications Proceeding Thru Steps



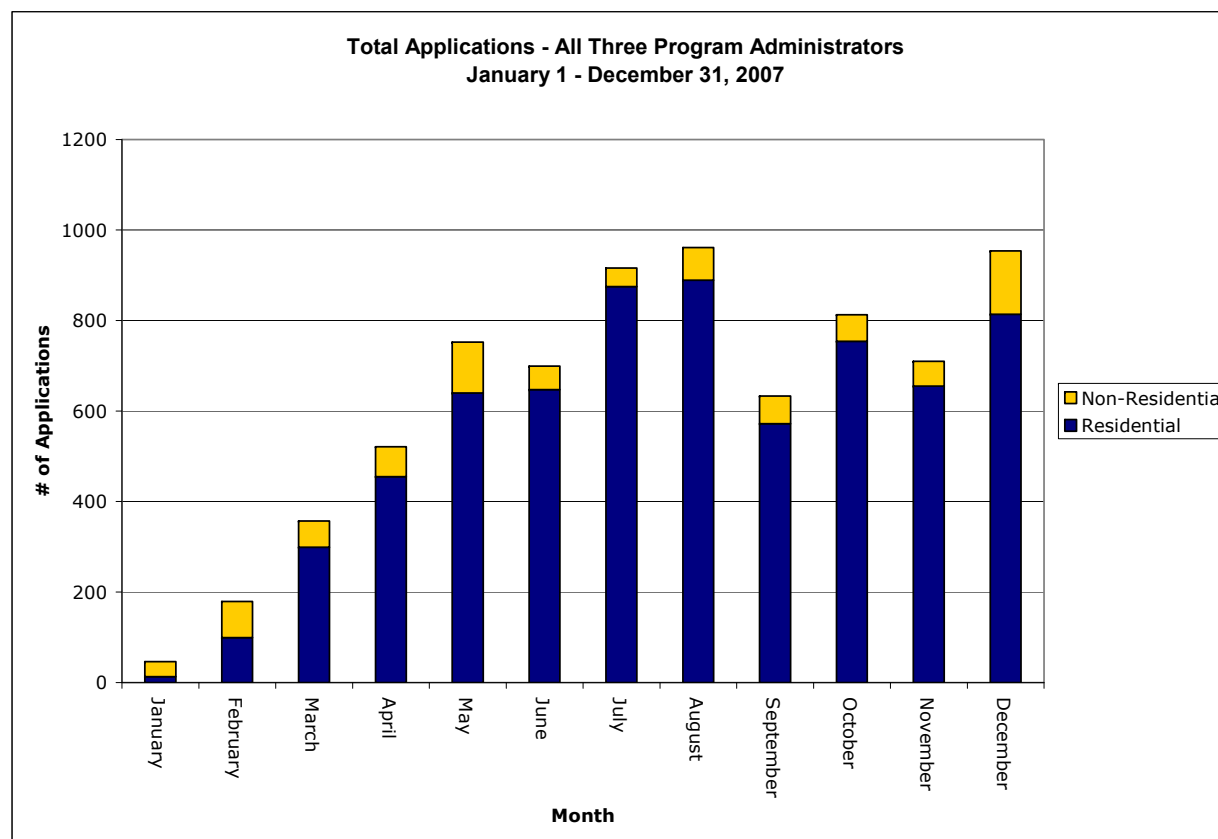
CALIFORNIA SOLAR INITIATIVE

CSI Application Status, MW and Payments

Handbook Step	Number of Applications					Total		Total Incentive
	Application Status	CCSE	PG&E	SCE	Totals	MW		\$
Application Processing Step 1	Reservation Request Review	8	486	165	659	29.1	MW	\$ 58,252,090
	Reservation Reserved	26	84	31	141	32.5	MW	\$ 83,146,060
	Confirmed Reservation	253	2118	577	2948	74.4	MW	\$ 213,661,367
	Total Applications in Step 1	287	2688	773	3748	136.1	MW	\$ 355,059,518
Application Processing Step 2 (Only applies to non-residential)	Milestone Review	0	73	12	85	26.2	MW	\$ 71,987,114
	Pending RFP	2	0	0	2	1.1	MW	\$ 3,270,675
	Incentive Claim Request Review	11	623	171	805	6.5	MW	\$ 25,212,188
	Total Applications in Step 2	13	696	183	892	33.9	MW	\$ 100,469,976
Application Processing Step 3 (Step 2 for Residential and Small Commercial)	Incentive Claim Submitted	15	147	18	180	3.5	MW	\$ 9,654,692
	Pending Payment	19	205	94	318	2.6	MW	\$ 7,286,241
	Completed	272	1537	412	2221	11.9	MW	\$ 28,758,012
	Total Applications in Step 3	306	1889	524	2719	17.9	MW	\$ 45,698,946
	Suspended	18	0	160	178	19.3	MW	\$ 54,366,625
	<i>Drop Outs</i>	<i>16</i>	<i>104</i>	<i>61</i>	<i>181</i>	<i>23.7</i>	<i>MW</i>	<i>\$ 63,953,230</i>
	Total	640	5381	1701	7722	232.3	MW	\$ 622,159,230
	Total w/o Drop Outs	624	5277	1640	7541	208.6	MW	\$ 558,380,388

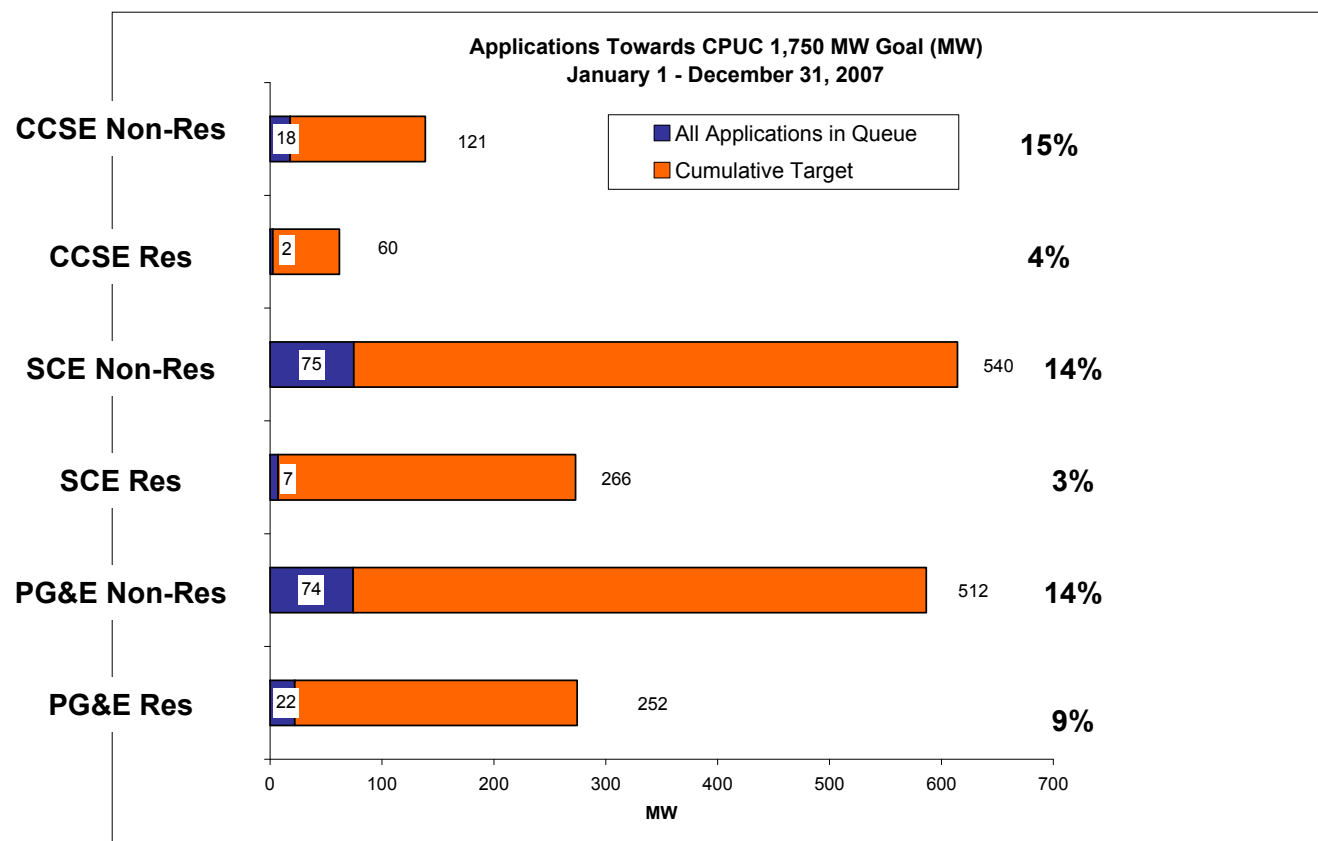
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Applications by Month



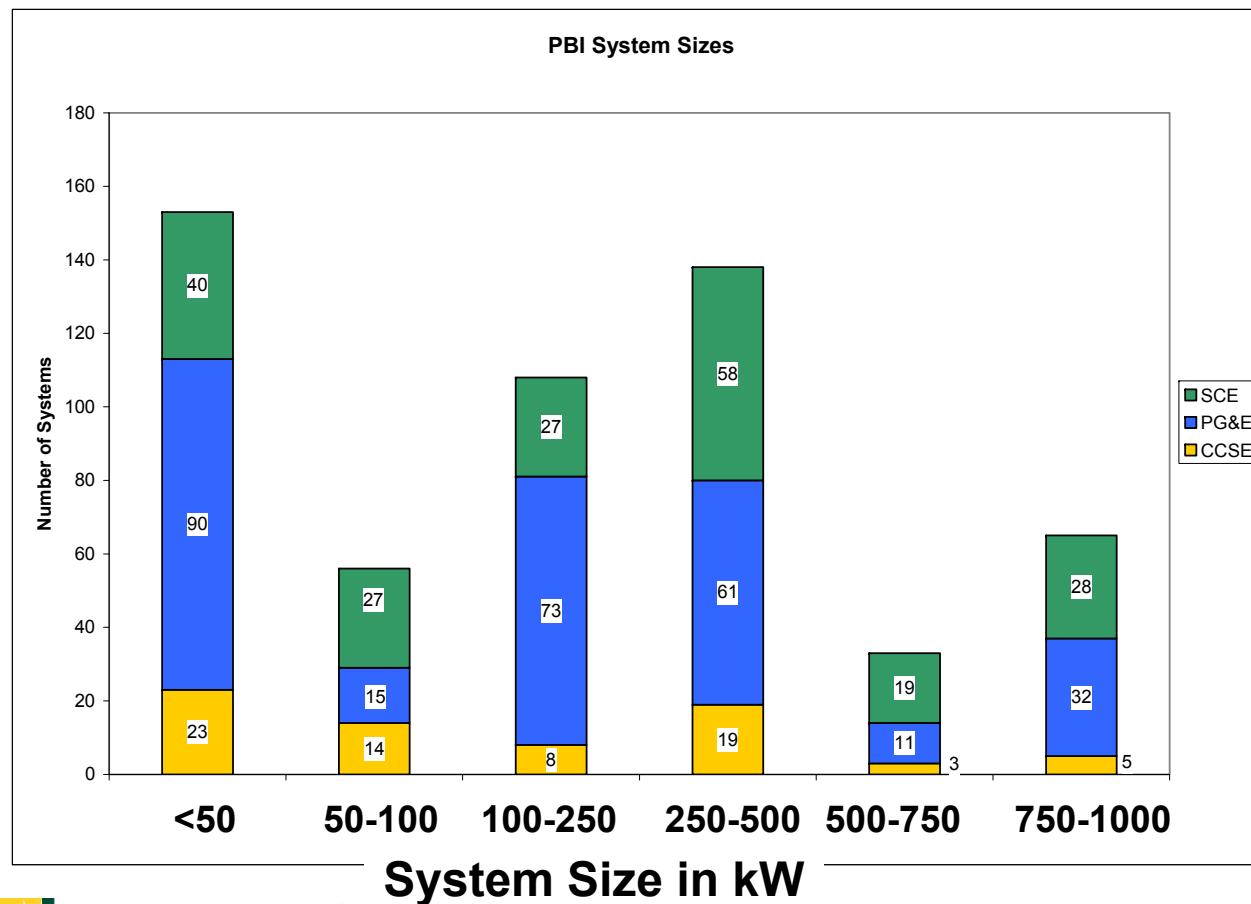
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Progress Towards 1,750 MW Goal



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PBI Incentive Demand



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Demand Statistics Per Administrator

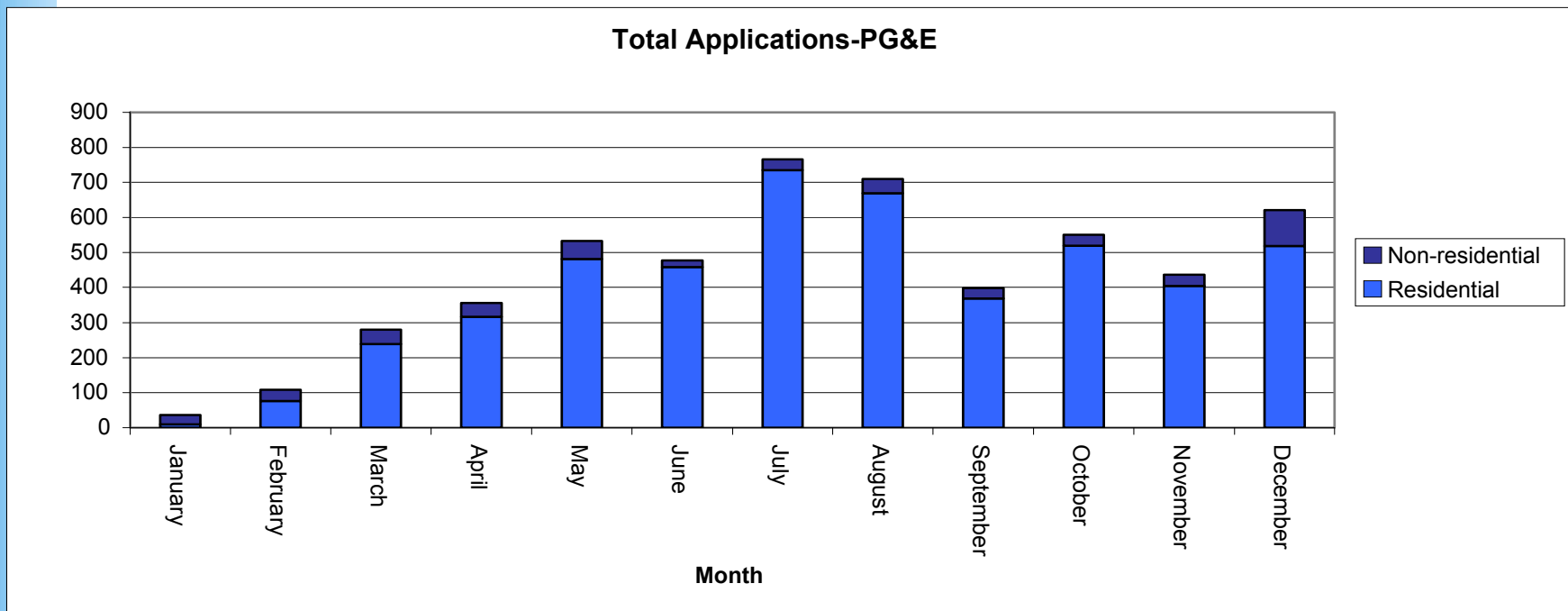
- Number of Applications
- Capacity of Applications



Photo: Self Install, David Matuszak , Gilroy, CA
California Solar Initiative funded system, 4 kW
Supplier: Solar Electric Supply, Aptos, CA

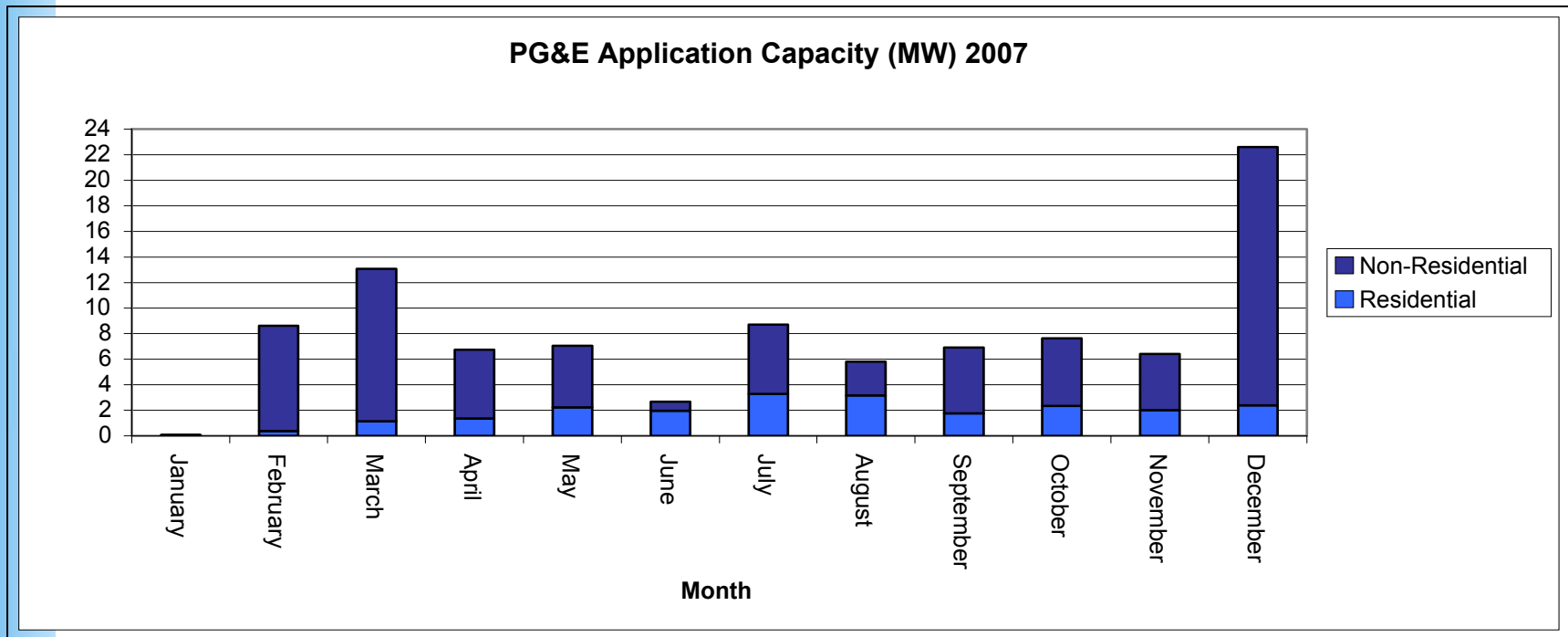
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PG&E Number of Applications



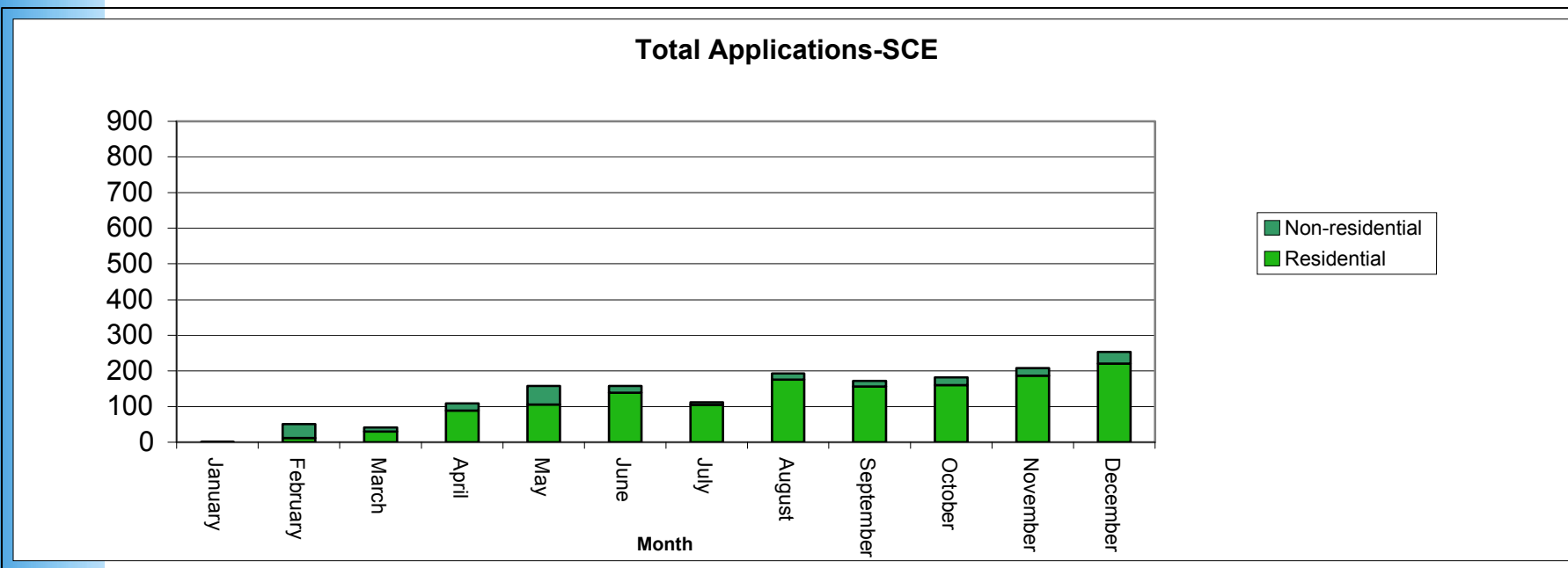
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PG&E Applications by Capacity



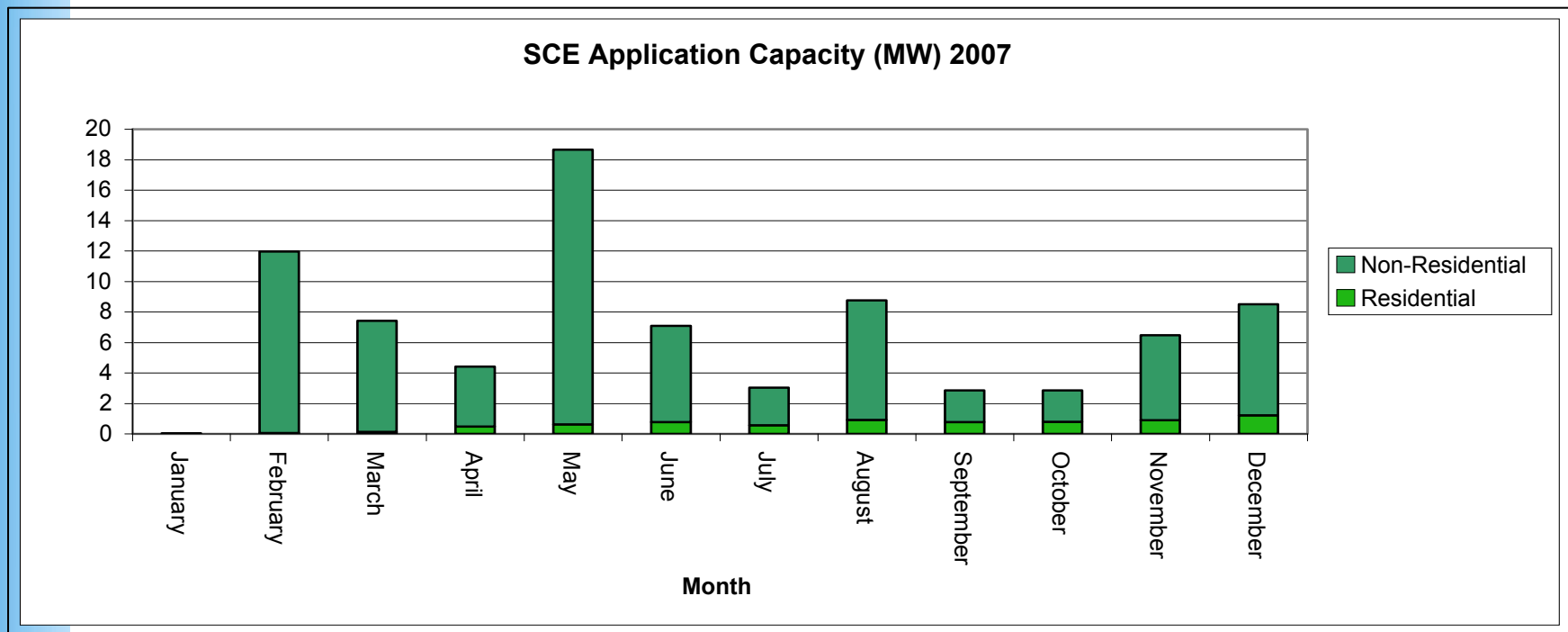
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SCE Number of Applications



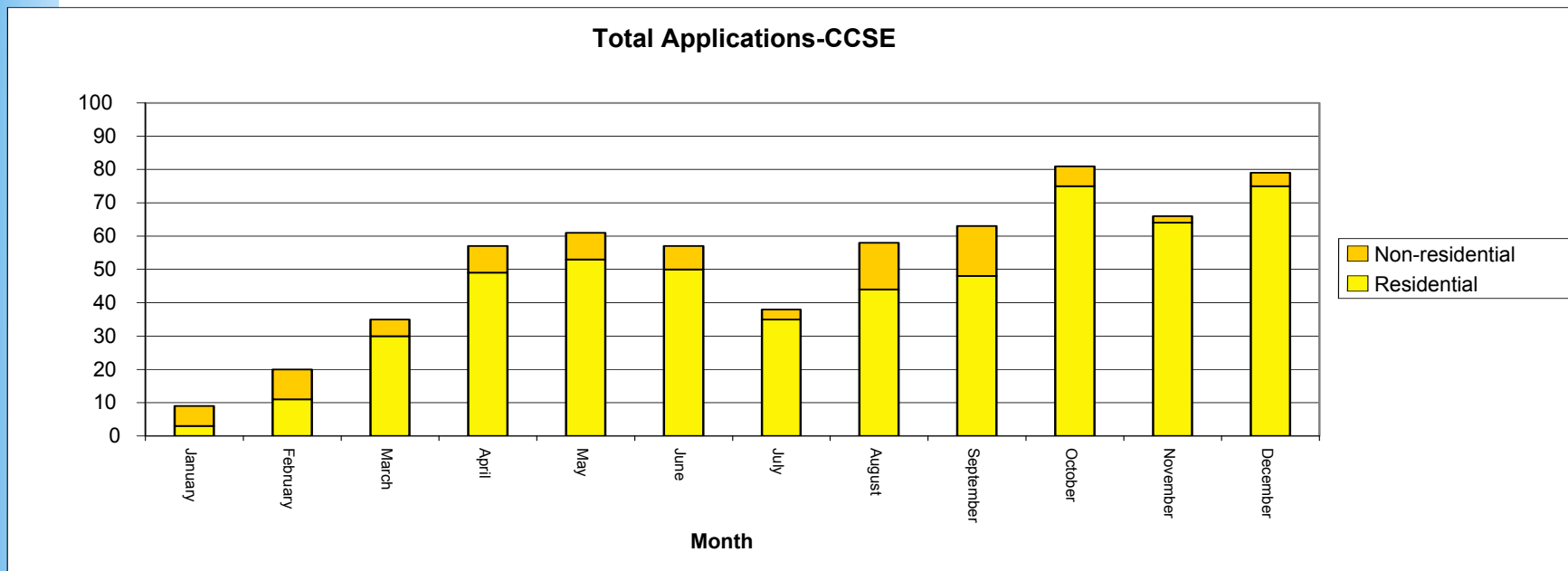
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SCE Applications by Capacity



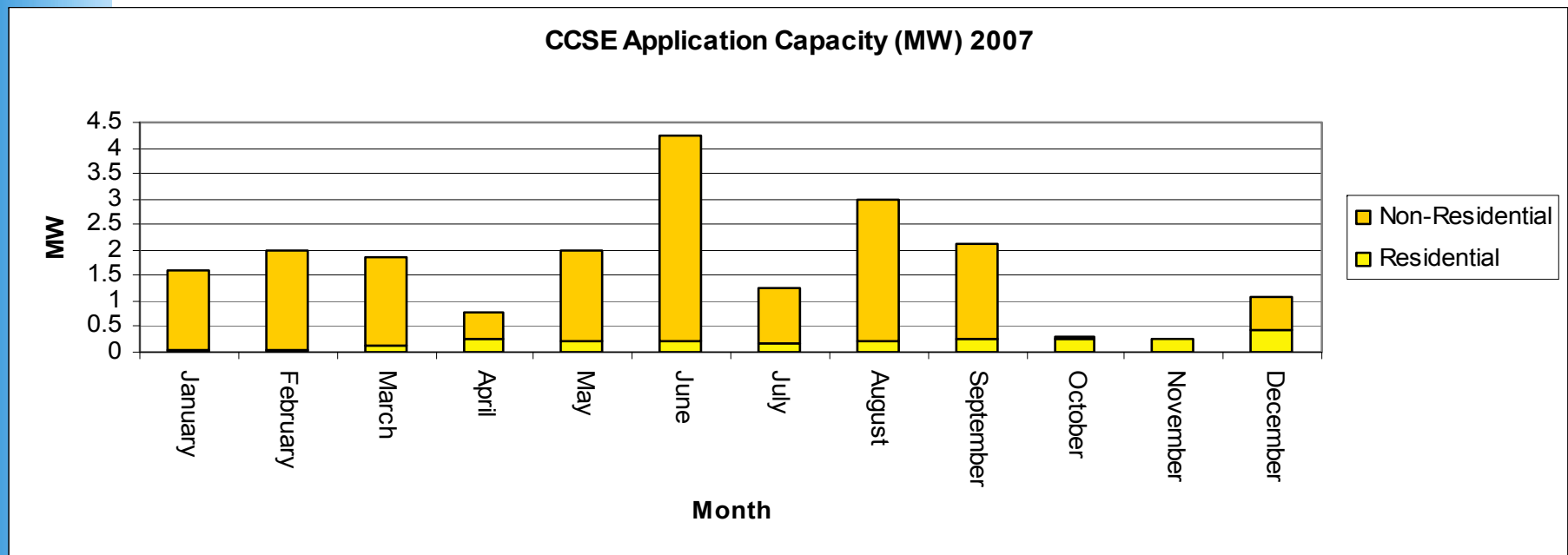
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CCSE Number of Applications



CALIFORNIA SOLAR INITIATIVE

CCSE Applications by Capacity



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Administrative Statistics



Photo: Pritesh Sampat, La Habra Heights
Installer & Seller: AMECO, Long Beach, CA
California Solar Initiative Funded System 2007, 8.2 kW

- Reservation Request Review Time
- Interconnection Time
- Installation Time
- Incentive Claim Form Review Time
- Payment Time
- Installer Trainings
- Program Drop Outs

CALIFORNIA SOLAR INITIATIVE

Reservation Review Request Time

- Goal is < 30 Days
- Residential Applications processed recently in <30 days:
 - 39% - PG&E
 - 64% - SCE
 - 91% - CCSE
- Non-Residential Applications processed recently in <30 days:
 - 32% - PG&E
 - 27% - SCE
 - 58% - CCSE

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Average Number of Days of Installation

Mean Number of Days from Reservation to Incentive Claim Form Received

	RESIDENTIAL	NONRESIDENTIAL
PG&E	58 days	116 days
SCE	57 days	76 days
CCSE	63 days	107 days

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Interconnection Time

Time from interconnect application to authorization to interconnect (in days)

	RESIDENTIAL	NONRESIDENTIAL
PG&E	7	10
SCE	8	26
CCSE	5	5

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Incentive Claim Form Processing Time

Recent (Sept – Nov) < 30 days

	Residential Without Inspection	Residential With Inspection	Non- Residential Without Inspection	Non- Residential With Inspection
PG&E	44%	8%	50%	17%
SCE	51%	41%	42%	0%
CCSE	82%	50%	100%	0%

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Payment Time

Average Number of Days from Pending Payment to Completed (Mean
Number of Days from ICF Approved to Payment Made)

	Residential		Non-Residential	
	EPBB	PBI	EPBB	PBI
PG&E	6	30	8	NA
SCE	34	0	37	0
CCSE	14	63	15	21**

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Installer Trainings

	Number of CSI Trainings Held in 2007	Number of Attendees at Installer Trainings in 2007
PG&E	29	1,882
SCE	26	376
CCSE	12	684
Total	67	2,942

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CCSE Program Drop Outs

Step	MW Originally Allocated	Incentive \$ Reserved	Total MW Dropout to date**	Incentive \$ Left Unreserved from Dropouts	MW added to Step 1	MW added to Step 2	MW added to Step 3	MW added to Step 4
Residential								
1	N/A	N/A	N/A	N/A		N/A	N/A	
2	2.40	\$6,009,000	0	0			0	
3	3.40	\$169,000	0	0				
Non-Residential (Commercial and Government)								
1	6.42	\$17,997,302	5.39	\$1,108,188		5.30	0.09	0
2	4.80	\$29,914,664	0.09	\$25,951			0.09	0
3	6.90	\$21,202,024	0.23	\$69,000				0.23
4	9.00	\$2,904,214	0	0				
Total Unreserved				\$1,203,139				

CALIFORNIA SOLAR INITIATIVE

PG&E Program Drop Outs

Step	MW Originally Allocated	Incentive \$ Reserved	Total MW Dropout to date**	Incentive \$ Left Unreserved from Dropouts	MW added to Step 1	MW added to Step 2	MW added to Step 3	MW added to Step 4
Residential								
1	-	-	2.590	\$776,927		2.590		
2	10.1	\$25,250,000	0.047	\$13,992			0.047	
3	14.4	\$31,680,000						
Non-Residential (Commercial and Government)								
1	27.8	\$77,840,000	13.565	\$4,356,026		12.882	0.410	0.273
2	20.5	\$51,250,000	11.171	\$5,463,971			4.129	7.042
3	29.3	\$64,460,000	3.795	\$1,138,569				3.795
4	38.1	\$72,390,000						
5	46.8	\$72,540,000						
Total Unreserved				\$11,749,485				

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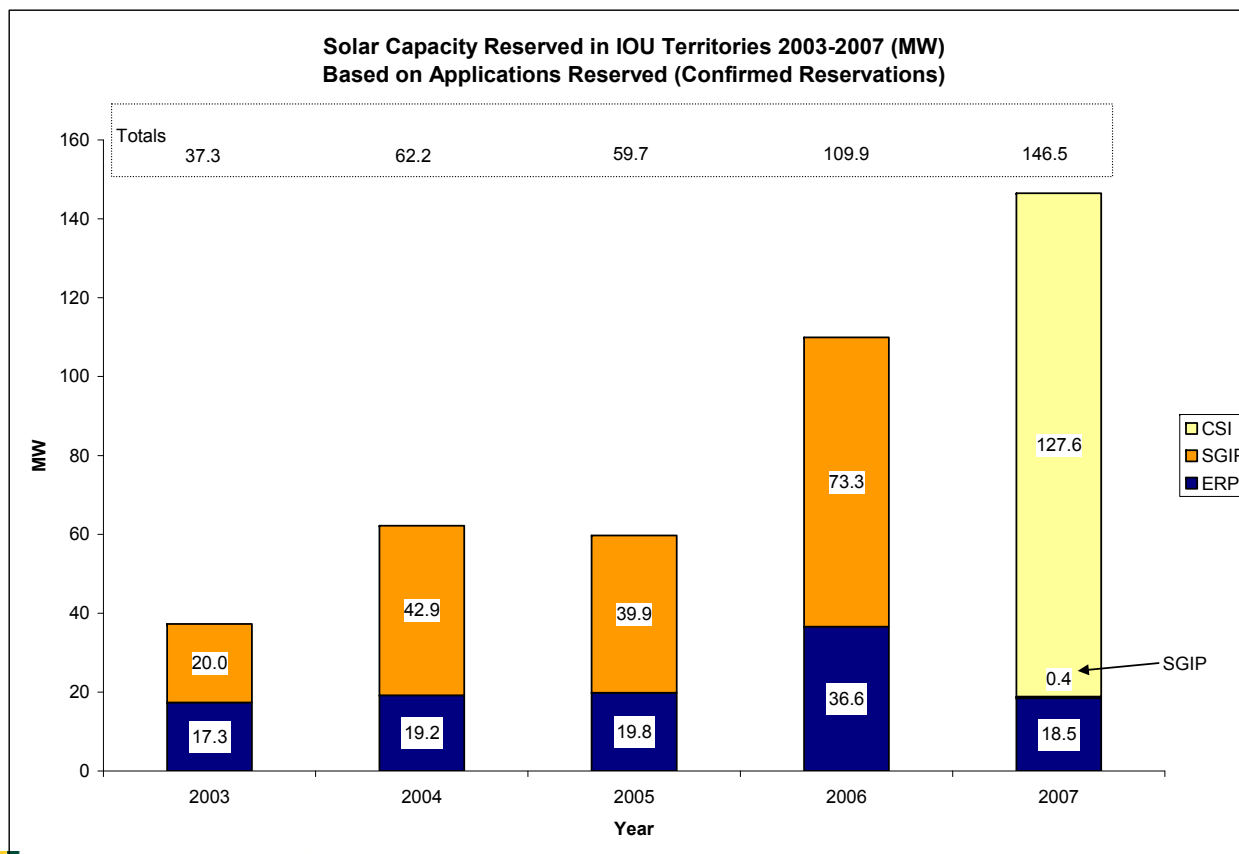
SCE Program Drop Outs

Step	MW Originally Allocated	Incentive \$ Reserved	Total MW Dropout to date**	Incentive \$ Left Unreserved from Dropouts	MW added to Step 1	MW added to Step 2	MW added to Step 3	MW added to Step 4
Residential								
1	0.07	\$0	0.07	\$182,568		0.07		
2	10.6	\$15,618,772	0.10	\$186,765			0.05	
Non-Residential (Commercial and Government)								
1	12.39	\$34,712,977	6.94	\$14,202,589		4.78	0.51	1.65
2	21.6	\$74,503,162	3.41	\$8,525,243				
3	30.8	\$103,738,003	1.05	\$2,850,548				
4	40.1	\$53,668,124	1.04	\$2,379,568				1.05
Total Unreserved				\$28,327,280				

Note: CPUC thinks SCE calculated Incentive \$ Left Column differently than CCSE and PG&E

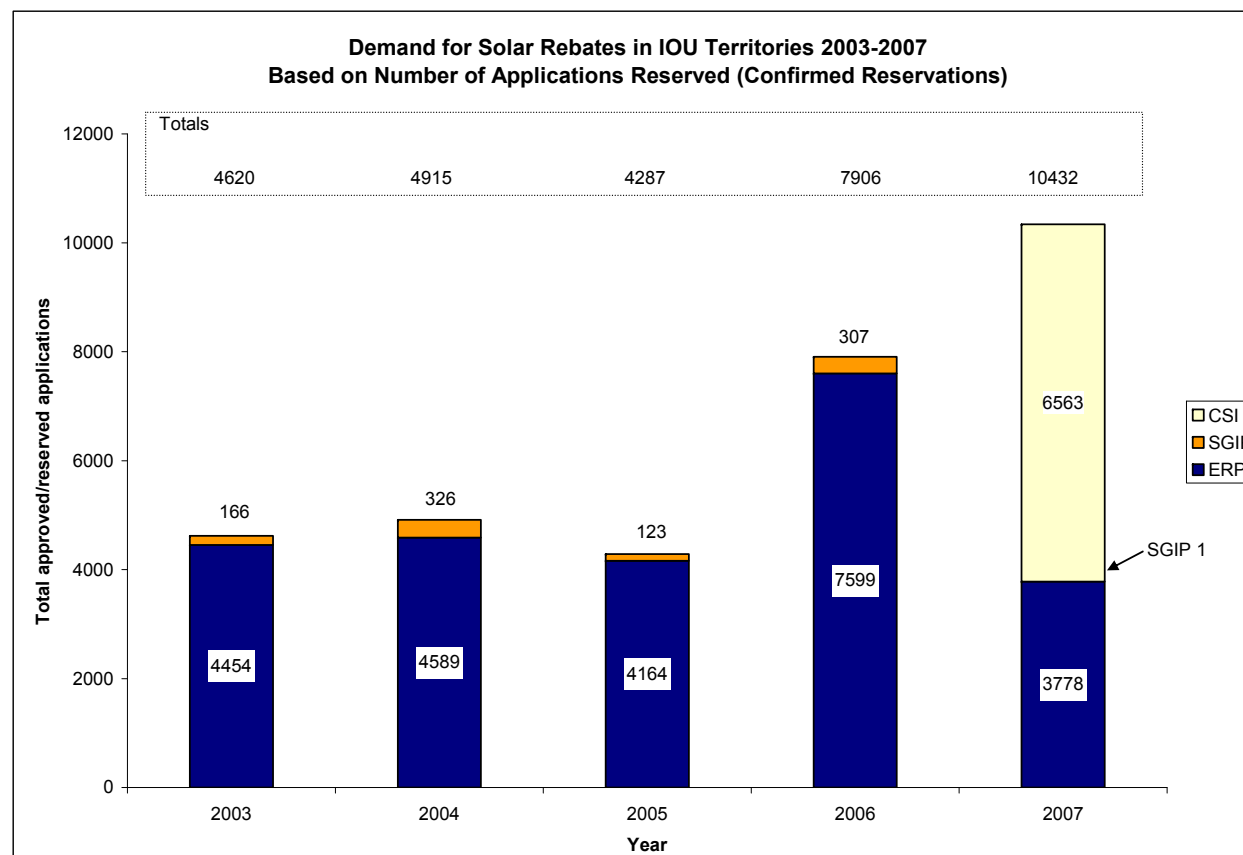
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Historical Comparison: Capacity Reserved



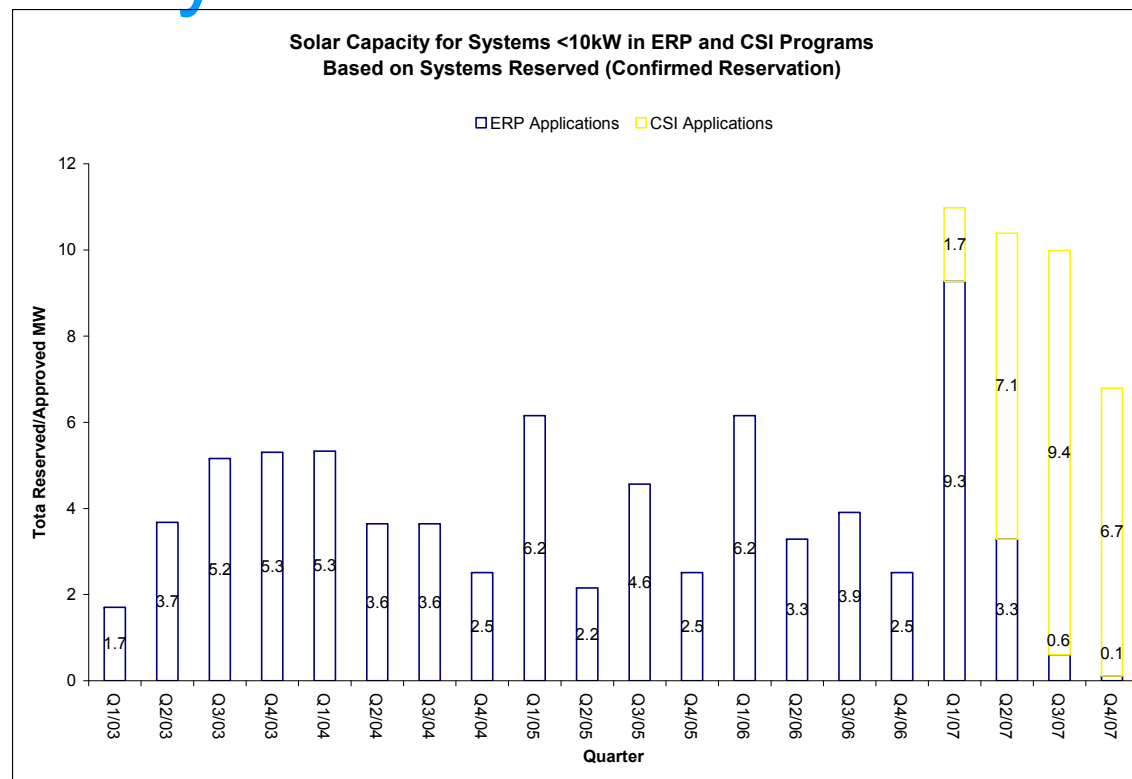
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Historical Comparison: Applications



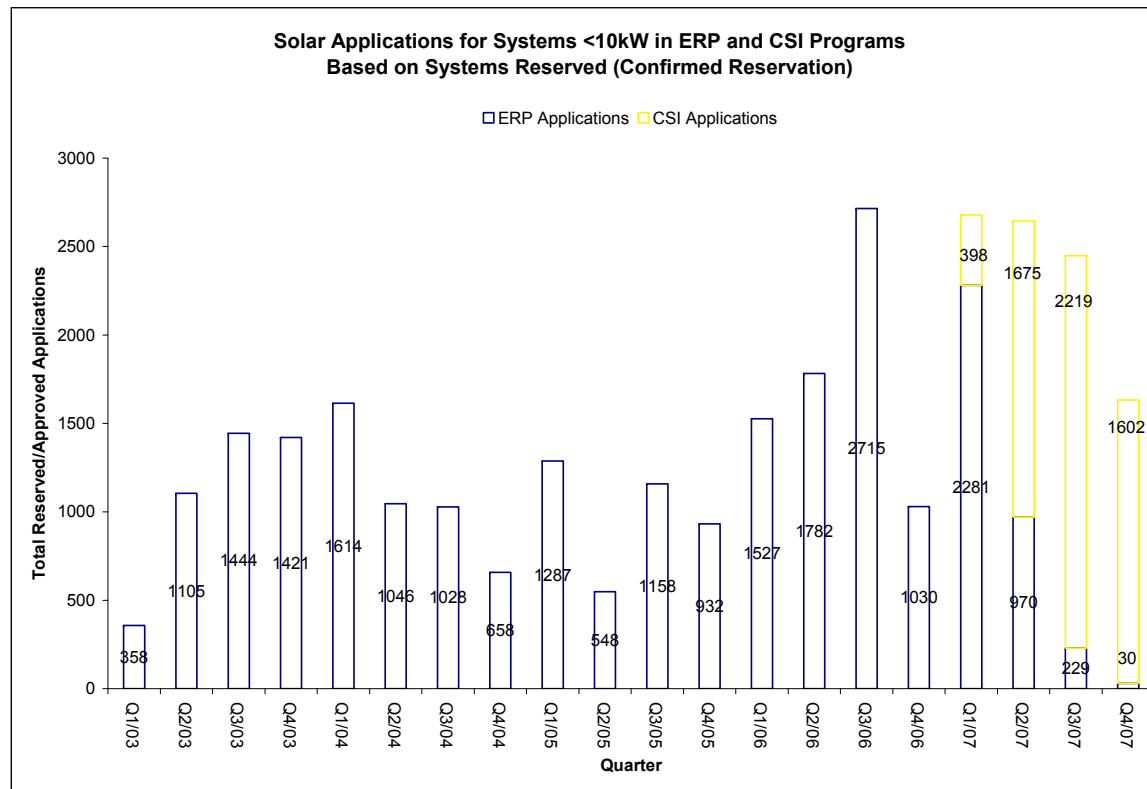
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Historical Comparison <10 kW: Capacity



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Historical Comparison <10 kW: Applications



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Q&A on Data and Program Metrics

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Stranded Dollars and Drop-Outs



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What is the situation?

- Drop outs after reservation are reallocated
 - If at current step, \$ and kW are the same
 - If at lower step, only kW move not the related dollar
 - Guarantees that MW target of program will be met
- For SGIP solar dropout rates for 2006:
 - All 55% from application to finished project
 - Post reservation (after the fee) 35%
- Preliminary CSI data (as of 1/9/2008)
 - 11% all projects, 3% post reservation

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Example for dropouts at a lower step

- PG&E moved from Step 2 to Step 3 on residential which moved from 2.50/watt to 2.20/watt.
- If 1 kW dropped from Step 2 it would be reallocated to Step 3, but the dollar differential would NOT.
- What happened to the \$300?
 - In this example the \$300 is 136.4 more watts
 - $((2.50 - 2.20) * 1000) / 2.20 = 136.4$ watts

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Step	MW Originally Allocated	Incentive \$ Reserved	Total MW Dropout to date**	Incentive \$ Left Unreserved from Dropouts	MW added to Step 1	MW added to Step 2	MW added to Step 3	MW added to Step 4
Residential								
1	-	-	2.590	\$776,927		2.590		
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3	29.3	\$64,460,000	3.795	\$1,138,569				3.795
4	38.1	\$72,390,000						
5	46.8	\$72,540,000						
Total Unreserved				\$11,749,485				

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Suggested next steps – non regulatory

- Work with industry to identify dropouts sooner
 - Establish a check-in milestone after proof of project milestone (PPM) and incentive claim form (ICF)
 - Not burdensome paper trail but “check-in”
 - Devise additional teeth to discourage late drops in project lifecycle?
- Timing
 - PG&E is already informally doing “check ins”
 - PA’s will seek a proposal to collaborate with industry in February and seek fast implementation
- Other suggestions?

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Suggested next steps – regulatory

- Petition to modify
 - Allocation of dollars with dropped kW
 - Add identified “stranded dollar” kW equivalent to current step for both residential and non-residential
- Timing
 - PG&E is developing language and will be seeking input/collaboration from stakeholders
 - Will likely take 2-3 months for the process to be finalized
 - We will likely be in Step 5 for non-residential by the time the process runs its course for PG&E and SCE
- Other thoughts?

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Discussion

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CPUC's CSI Program and SB1 Report



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CPUC Ruling on SB1 Report

- CPUC issued ruling 1/15/08 that outlines SB1 Guidelines Report implementation for the CPUC portion of the statewide program
 - SB1 2008 minimum requirements:
 - CSI Program Administrators to implement immediately; note however – program in place is in compliance
 - SB1 2009 eligibility requirements:
 - CSI Program Administrators prepare plan for EPBB calculation tools changes by April 1, 2008
 - CSI Program Administrators prepare plan for all other requirements by September 1, 2008
 - CSI Program will implement all necessary changes to comply with SB1 requirements by January 1, 2009

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CPUC program policies to be changed due to SB1 Report

Components	Action Required by CSI	PBI	EPBB
Modules must be certified compliant with UL 1703 by a Nationally Recognized Testing Laboratory (NRTL)	No Action	X	X
Electricity Displacing Technologies subject to CPUC regulation; all Non-PV electricity generating technologies subject to CEC rules starting 2009.	Adopt CEC requirements once developed, change to CSI Handbook	X	X
System Design and Installation	Action Required by CSI	PBI	EPBB
New Calculator, using Time Dependent Values (TDV)	Change PA database, CSI Calculator and CSI Handbook		X
New Shading Methodology (see CEC guidelines, Appendix 2)	Change to CSI Handbook		X
Third party Field Verification carried out on a minimum of one in seven installations. (see CEC guidelines, Appendix 2)	Change to CSI Handbook		X

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CPUC program policies to be changed due to SB1 Report

Energy Efficiency	Action Required by CSI	PBI	EPBB
New Construction must exceed 2005 Title 24 Standards for energy efficiency by a minimum of 15% (Tier I) and are encouraged to achieve 35% reductions in overall load for Residential construction and 30% for all non-residential construction (Tier II)	Change to CSI Handbook		X
Existing Residential must meet energy audit, information and disclosure requirements	Change to CSI Handbook	X	X
Existing non-Residential buildings less than 100,000 square feet must meet energy audit, information and disclosure requirements and shall be benchmarked using US EPA's Portfolio Manager	Change to CSI Handbook		X
Existing Buildings over 100,000 square feet must meet the requirements above and must undergo Retro-Commissioning if their benchmark rating is less than 75 or an equivalent energy use intensity.	Change to CSI Handbook		X

Guidelines for California's Solar Programs Pursuant to Senate Bill 1



CSI Forum

January 17, 2008

Bill Blackburn



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Today's Presentation Covers

- Background
- Guidelines summary
- Implementation schedule
- How this affects CSI participants

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CEC Role Under SB 1

- Develop offset program
- Proceeding to make findings if solar should be required on residential & non-residential buildings
- Education and outreach; costs & benefits study
- Eligibility criteria for statewide solar electric incentive programs (IOUs & POU's)

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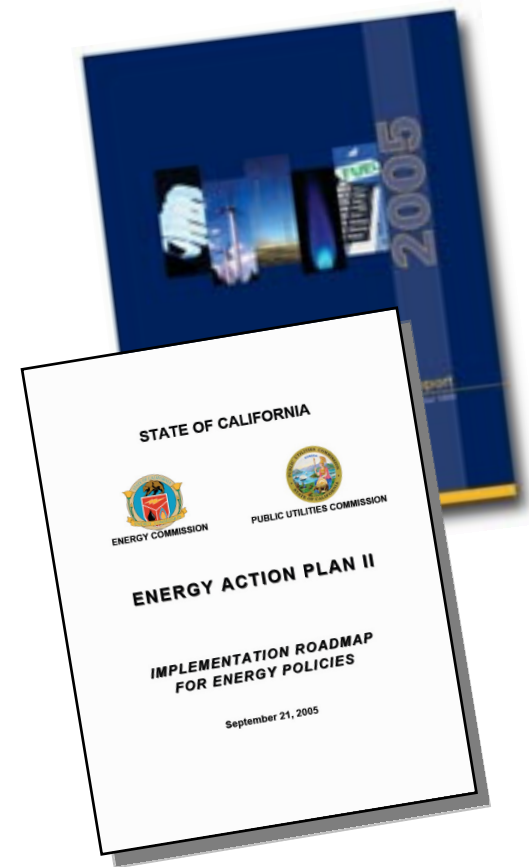
SB 1 Specific Expectations

- High quality solar energy systems with maximum system performance to promote the highest energy production per ratepayer dollar
- Optimal system performance during periods of peak demand
- Appropriate energy efficiency improvements in new and existing home or commercial structure where solar energy system is installed

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Why Efficiency Requirements?

- SB 1 spells it out specifically
- IEPR and Energy Action Plan highlight the need for energy efficiency to be a top priority
- SB 1037 and AB 2021
 - Directs IOUs and POU's first meet unmet resource needs via cost effective energy efficiency
- AB 32 and other measures puts great emphasis on reducing GHGs



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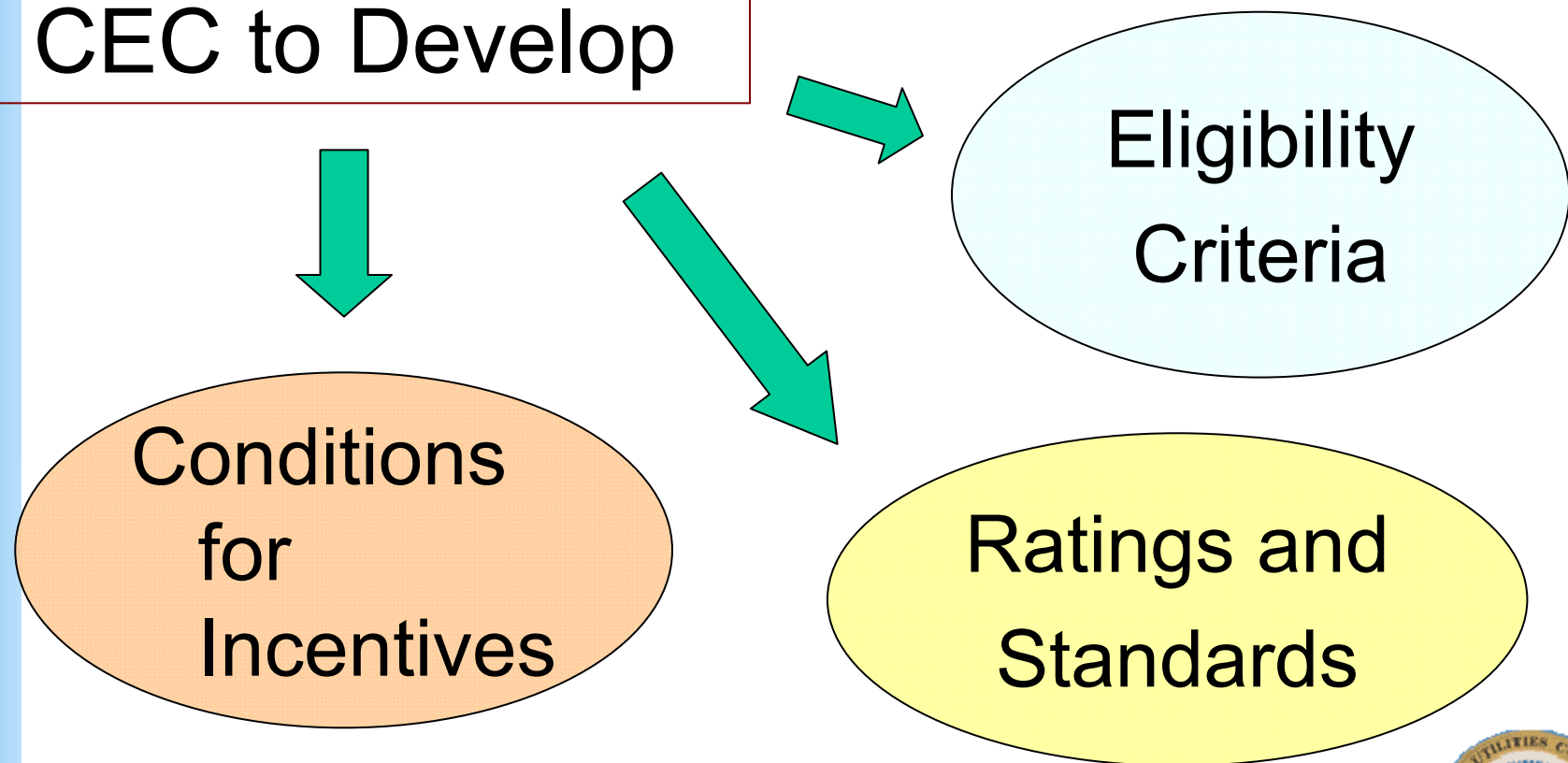
SB 1 Assignments for CEC

“The (Energy) commission shall, by January 1, 2008, in consultation with the Public Utilities Commission, local publicly owned electric utilities, and interested members of the public, establish eligibility criteria for solar energy systems receiving ratepayer funded incentives... The commission shall establish conditions on ratepayer funded incentives... The commission shall set rating standards for equipment, components, and systems...”

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What Are We Responsible For?

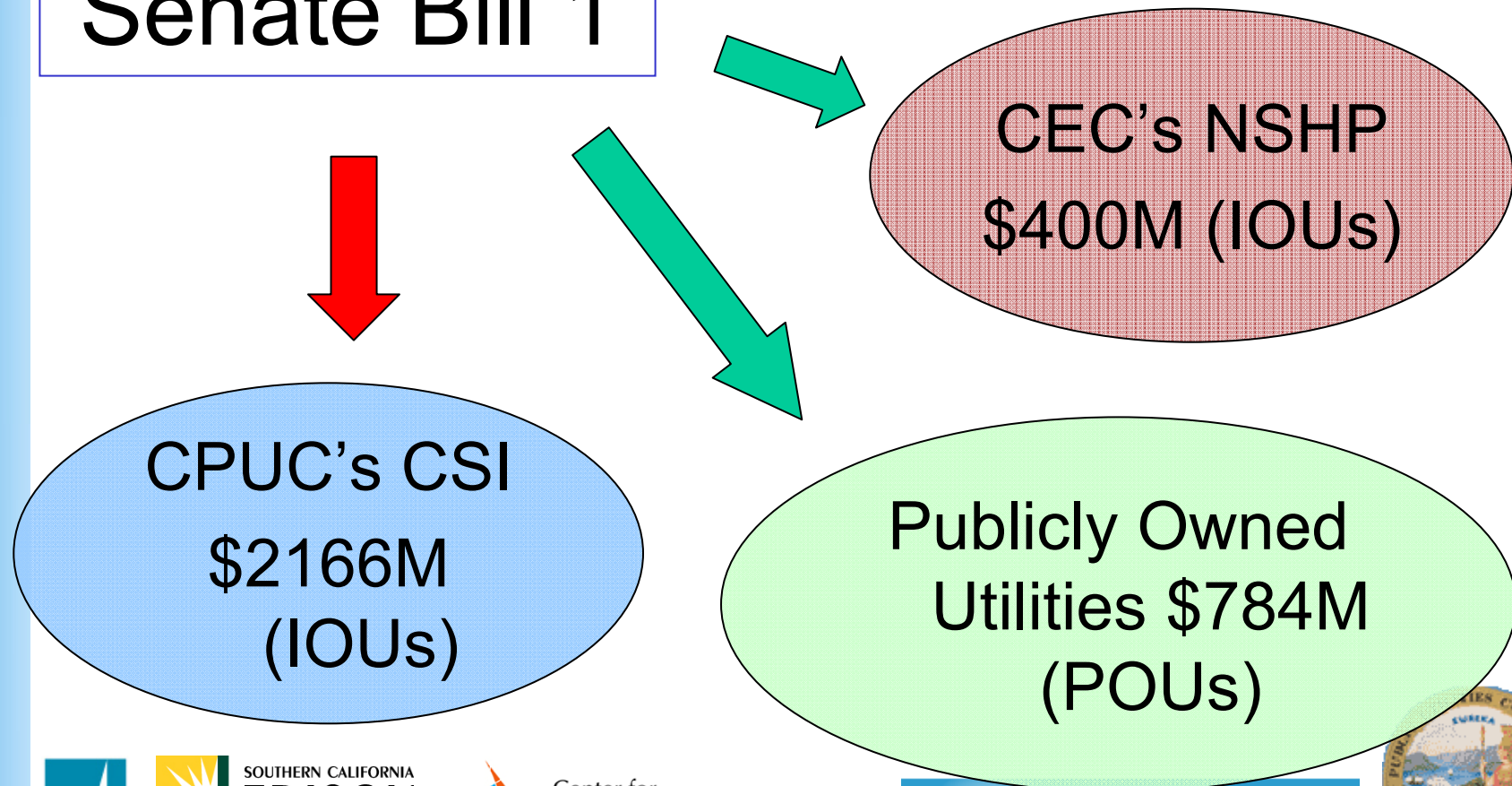
CEC to Develop



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What Programs are Affected?

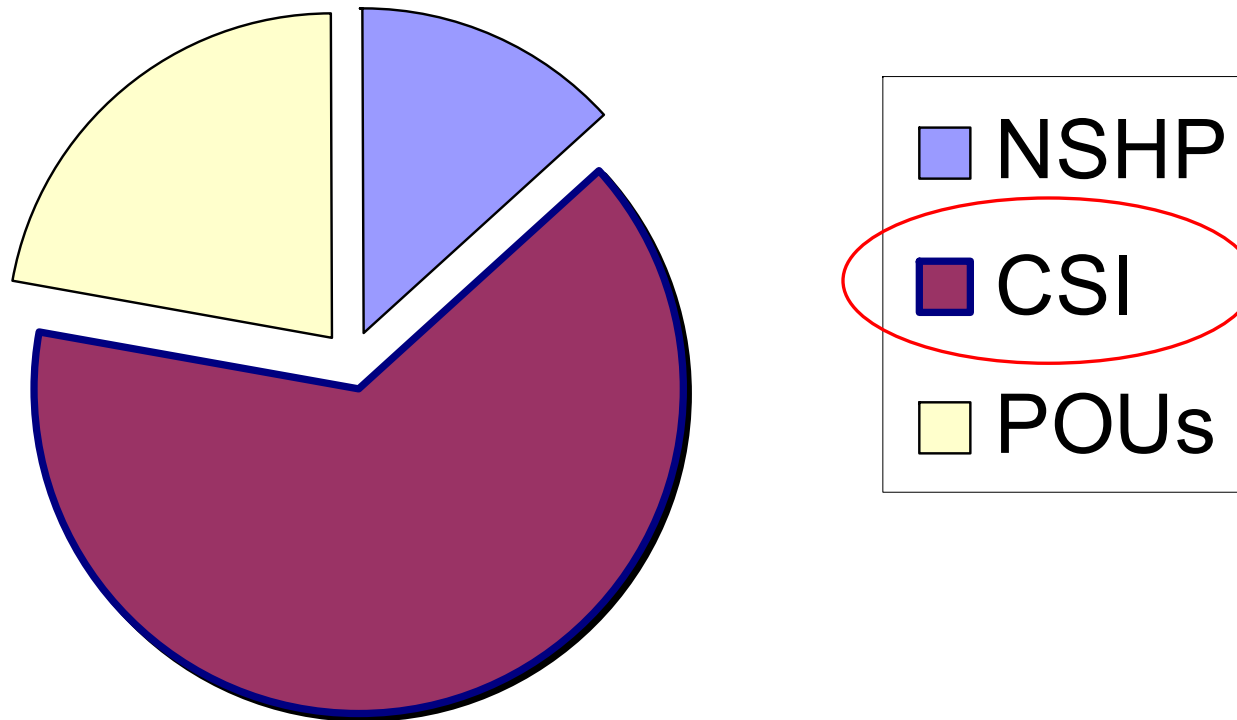
Senate Bill 1



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What Programs are Affected?

3000 MW Breakdown



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Implementation Schedule

January 1, 2008

- Effective date to meet minimum SB 1 requirements (Chapter 2)

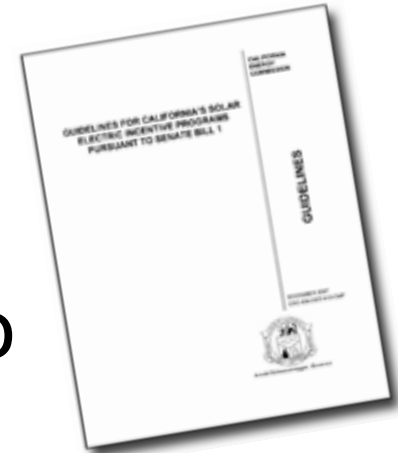
January 1, 2009

- Effective date to meet criteria, conditions and ratings developed by CEC (Design criteria, equipment and energy efficiency - Chapters 3-5)

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SB 1 Guidelines Summary

- While the Guidelines Report took effect Jan. 1, 2008, only minimum requirements need to be met this year
- Full requirements beginning Jan. 1, 2009
 - 1) Solar Energy System Component Standards (specific testing on PV modules, inverters and meters to be eligible)



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SB 1 Guidelines Summary (cont.)

- 2) System Design and Installation Standards AND Incentives (PBI or EPBI approach, Field verification required for EPBI projects, Performance monitoring and maintenance required for PBI projects)



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SB 1 Guidelines Summary (cont.)

3) Energy Efficiency requirements (Tiers I & II level for new construction projects, Energy audit for existing residential, Benchmarking and retro-commissioning for existing commercial if using EPBI, Alternative portfolio energy savings)

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SB 1 Guidelines Summary (cont.)

- 4) POU reporting requirement to provide information on programmatic progress; allowances made for small POUs (delayed to Jan. 1, 2010)



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How is CSI Affected?

- PUC Issued Ruling (will discuss)
- CSI Handbook will need to be modified
- We want to work with you on successful transition to fully meeting SB 1 Guidelines
- Look for meeting starting Feb/March 2008 period to address ongoing concerns

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Guidelines Schedule

- ✓ Aug. '07 Staff Report and Workshop
- ✓ Sept/Oct '07 Draft Guidelines and Workshop
- ✓ Dec. 19, '07 Business Meeting for approval
- ✓ Jan. 1, '08 Guidelines take effect (minimum)
- Mid '08 **Revise Guidelines (tentative)**
- Jan. 1, '09 **Most criteria, conditions, standards take affect**
- Jan. 1, '10 **Small POUs required to meet all guidelines**

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More info at:
energy.ca.gov/reports/index.html



January 2008

CSI Non-PV Solar Update



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Why Non-PV?

- December 2006 CSI Decision stated intent to include non-PV solar technologies
- Directed Program Administrators to develop non-PV solar technical requirements
- Per SB1, set aside \$100.8M for non-PV electric displacing projects

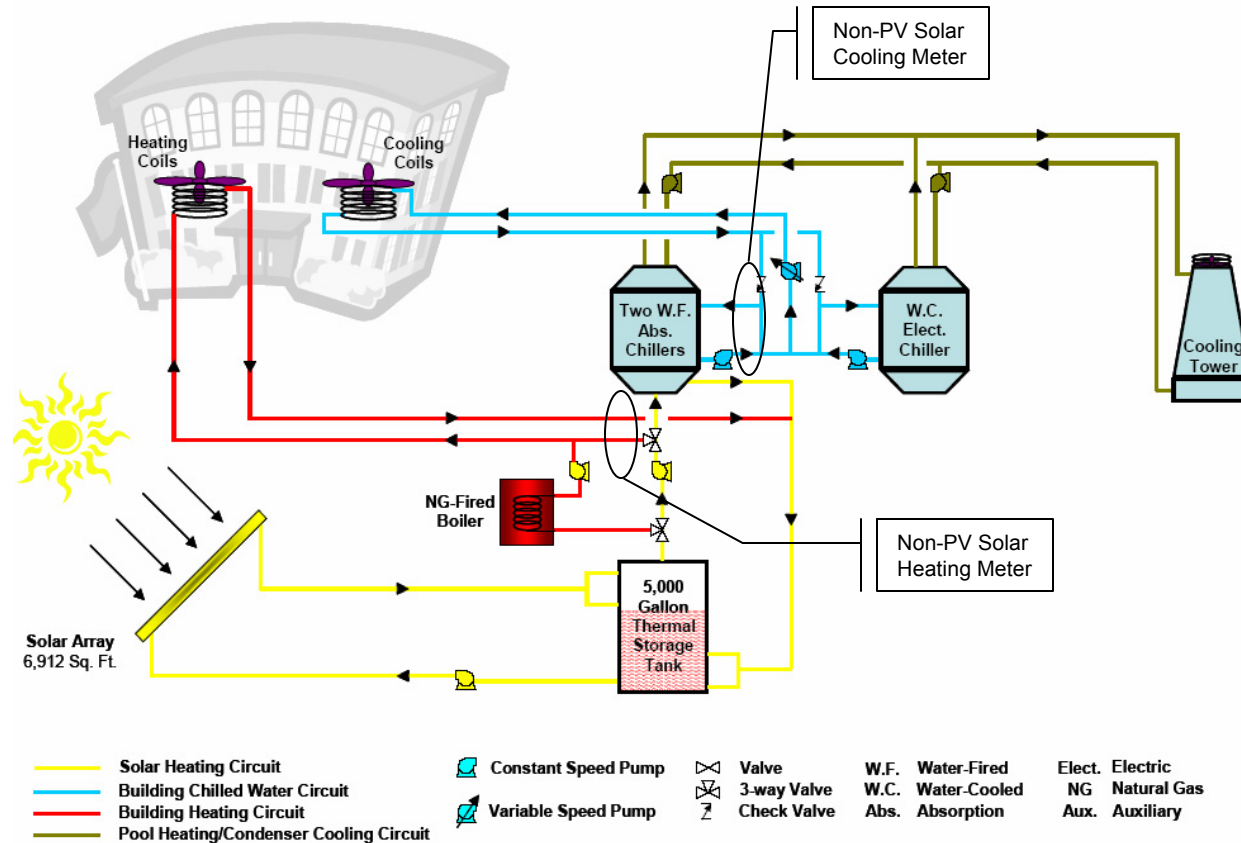
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What Is Non-PV Solar?

- Electric Displacing Technologies
 - Solar water heating
 - Solar space & process heating
 - Solar forced air heating
 - Solar cooling (absorption/adsorption chillers, desiccant systems, etc.)
- Electric Generating (Concentrated Solar)
 - Parabolic dish (Dish-Stirling)
 - Parabolic trough
 - Fresnel reflectors/lenses

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Hybrid Solar Heating/Cooling System



Permission for hybrid system image provided by Bob Hess of Salt River Project

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Where Are We Now?

- PAs filed Advice Letter in June 2007
- Advice Letter protested
- Industry/PA working group formed to resolve issues
- Commission issued Resolution in December 2007 adopting non-PV CSI Handbook revisions

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December 2007 CPUC Resolution

- Approves CSI Handbook Changes
 - Definition of non-PV
 - Eligibility requirements
 - System capacity rating
 - Metering (not complete)
 - Estimation of EPBB incentives
 - Quantification of production/electric displacement for PBI
- PAs & Energy Division to establish implementation timeline

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What's Next?

- Outstanding thermal metering issues
 - Metering Subcommittee to meet (mid Feb?)
 - Advice Letter (end of Feb?)
 - Additional CSI Handbook revisions
- Additional program changes
 - Revise application forms
 - Statewide database upgrades
 - Training & outreach
- Equipment certification & listing (CEC)

January 2008

CPUC's CSI Program Regulatory Update



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•**Single-Family Low Income Program (\$108 million budget):**

Implementation outlined in November 2007 CPUC Decision

Incentive Levels – Single Family Program

Federal Income Tax Liability	Qualifying Low-Income CARE-Eligible Homeowners	Qualifying Low-Income Homeowners not eligible for CARE
\$0	\$7.00	\$5.75
\$1 to \$1000	\$6.50	\$5.25
\$1001 to \$2000	\$6.00	\$4.75

- Homeowners must have financed their home using local, state or federal housing assistance programs **and** have a household income less than 50% of the area median income to receive full subsidy

- Will begin with the selection of a Program Manager in 2008

•**Multi-Family Low Income Program (\$108 million budget):**

- CSI Program Administrators submitted *multi-family* program proposal in July 2007

- Proposal discussed in workshop August 2007

- CPUC decision expected in early 2008

CALIFORNIA SOLAR INITIATIVE

CSI RD&D Program:

- \$50,000,000 budget
- CSI RD&D is a portfolio based grant-making program that focuses on overcoming technological barriers to the widespread adoption of solar distributed generation

RD&D Program progress to-date and timeline:

- **September 20, 2007:** RD&D Program plan adopted
- **November 2007:** PG&E selected as contracting IOU
- **January 2, 2008:** Draft RFP for RD&D Program Manager was released for public comment (comments due Jan 22, 2008)
- **February 2008:** Target for release of Program Manager RFP
- Next steps:
 - Select RD&D Program Manager (**Q2 of 2008**)
 - Finalize RD&D grant-making strategy (**Q2/Q3 of 2008**)
 - Stakeholder meeting (**Q3 of 2008**)
 - First RD&D grant RFP released (**Q4 of 2008**)

note that all above dates are targets not set deadlines

CALIFORNIA SOLAR INITIATIVE

Small Renewable Generation Feed-In Tariff:

- Feed-In tariff Program for Public Water/Wastewater facilities authorized by AB 1969 (2006)
 - CPUC voluntary expansion required SCE and PG&E to offer the program to other types of facilities
- Program allows eligible DG systems to use a standard tariff/contract for sale of renewable energy to CA IOUs
 - Reduces transaction costs to make small renewable DG more viable
- Contract periods of 10, 15 and 20 years
- Tariff is based on the current Market Price Referent adjusted for time of delivery
- Full-Buy *and* Excess-sales options may be available
- On 1/31/08 Commission Agenda for approval

CALIFORNIA SOLAR INITIATIVE

- **CSI Solar Water Heating Pilot Program:**
 - Pilot Program is being implemented by CCSE and was kicked off July, 2007.
 - Offers incentives for solar water heating systems in San Diego Gas and Electric Co.'s service territory
 - On-going Program Evaluation helping to inform Program Design and future decision making regarding the possibility of a statewide solar water heating incentive program (AB 1969, 2007)
- **Solar Water Heating Pilot Program Statistics:**
 - 40 Residential Projects w/ avg. incentive of \$1,200
 - 2689 therms and 45,500 kWh in estimated savings